



Network Anomaly Detection

**USING AI TO UNCOVER DEVIATIONS FROM
THE NORM IN NETWORKS**

Cross-industry | Telecommunications |
Finance | Health & Public Service

The
Alan Turing
Institute

accenture



Network Anomaly Detection

*Want a sneak preview of the research?
Click to hear from our presenter.*

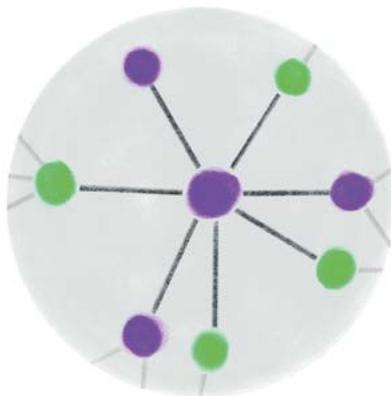
**USING AI TO UNCOVER DEVIATIONS
FROM THE NORM IN NETWORKS**

The challenge

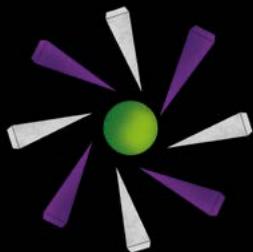
Networks underpin so many of the services and systems that we use worldwide, every day. They're at the heart of almost every industry out there, from financial services to telecommunications. When anomalies occur in these networks, it means that something unexpected is happening—and that could mean trouble is ahead. Manual detection is complex and labour-intensive, so we need to find smarter ways to spot anomalies.

Our research

We use novel approaches to analyse nodes and connections within networks—and spot when they depart from the norm. Through our research, we have constructed a number of algorithmic methods to reveal anomalies with large connection weights. Some methods identify clusters, others look for paths, while others look at other network properties. This technology could make the detection of issues like fraud and telco network problems quicker and more cost-efficient.



An example of a star-shaped network anomaly in a social network: large number of connections that are not inter-connected.



To find out more, contact Andrew Elliot:
ande.elliott@gmail.com

Project team:

Andrew Elliott, The Alan Turing Institute;
Thomas McMahon, Accenture.